

### **ABSTRACT OF THE INVENTION**

A range discriminating optical sensor for use in a vehicle safety system is provided. The range discriminating sensor is designed to create a small depth of field such that objects at a range outside of the depth of field are eliminated from the image. Generally, the optical sensor uses a large aperture to limit the depth of field. An electronic imaging element is used to detect the image projected by the lens. The electronic imaging element may have a small pixel size which further reduces the depth of field. A signal processor can be used to determine the distance from the image sensor with objects with the selected depth of field appearing in focus and those outside of the depth of field appearing out of focus.

S:\ALLCLIENTS\2949 Autoliv\2949.2.111\Patent application.doc